DEPARTMENT OF FOOD AND AGRICULTURE

PROPOSED CHANGES IN THE REGULATIONS

Title 3, California Code of Regulations

Section 3433, Diaprepes Root Weevil Interior Quarantine

INITIAL STATEMENT OF REASONS/

POLICY STATEMENT OVERVIEW

Description of the Public Problem, Administrative Requirement, or Other Condition or Circumstance the Regulation is Intended to Address

These regulations are intended to address the obligation of the Secretary of Food and Agriculture to protect the agricultural industry of California from the movement and spread within California of injurious plant pests.

Specific Purpose and Factual Basis

The specific purpose of Section 3433 is to provide for the State to regulate the movement and possible carriers of *Diaprepes abbreviatus* (Diaprepes Root Weevil) from the area under quarantine to prevent the artificial spread of the weevil to noninfested areas to protect California's agricultural industry.

The factual basis for the determination by the Department that the emergency adoption of Section 3433 is necessary is as follows:

An adult *Diaprepes abbreviatus* (West Indian sugarcane root borer or Diaprepes root weevil), was detected on May 31, 2006, from a residence located in San Diego. On June 1, 2006, through visual inspection, another five adult Diaprepes root weevils were detected in outlying areas surrounding this residence. On June 5, 2006, through visual inspection, another adult weevil was collected. The number of adult Diaprepes root weevils detected is indicative of an incipient infestation existing in this area.

The Diaprepes root weevil was first detected in California on September 14, 2005, at a residence located in Newport Beach, Orange County. Through visual inspection, another

39 adult Diaprepes root weevils were detected in outlying areas surrounding this residence. As a result, the Department adopted two emergency regulations: 1) Section 3591.19, *Diaprepes abbreviatus* Eradication Area (effective September 28, 2005), and 2) Section 3433, Diaprepes Root Weevil Interior Quarantine (effective October 3, 2005). The Department subsequently detected numerous adult beetles in the Long Beach area of Los Angeles County and La Jolla area of San Diego County and made appropriate emergency amendments to both regulations.

An emergency quarantine response was necessary to ensure the Diaprepes root weevil does not continue to multiply and spread to other uninfested areas of the State. Adult Diaprepes root weevils will continue to emerge, and although it is a strong flyer, generally it only flies up to 300 meters to find suitable host material. The real threat of long distance spread is through the human assisted movement of infested plants or soil.

Diaprepes root weevil is a major destructive pest of citrus and many other commercial crops grown in Florida including ornamental plants and root crops. Diaprepes root weevil is a native of the Caribbean Islands where at least 19 additional *Diaprepes* species, not currently detected in the United States, are known to occur. Diaprepes root weevil was first detected in Florida in 1964 near the town of Apopka in Orange County. The weevil has now spread to parts of most agricultural areas outside of the original Apopka site. It is thought to have been introduced into Florida on ornamental plants imported from Puerto Rico.

While this pest is widespread in Florida, the Florida Department of Agriculture and Consumer Services (FDACS) still considers it a quarantine pest of concern and requires all Florida nurseries to be free of the Diaprepes root weevil in order to ship intrastate or interstate. Infested nurseries are required to be under a compliance agreement that enables the nursery stock to move from the nursery once all the conditions in the agreement are met. These conditions may include removal of plants from growing media, shipping plants bareroot, or the application of approved chemical treatment.

Diaprepes root weevils were also detected in the Texas Rio Grande Valley. As a result, the Texas Department of Agriculture also adopted an interior quarantine against the weevil and is also conducting an eradication program.

California also maintains an exterior quarantine regulation, Section 3279, West Indian Sugarcane Root Borer, to prevent the introduction of this weevil from infested states.

In Florida, adult weevils may emerge from the soil throughout the year. However, there are two peak emergence periods of adult activity in the spring (May through June) and fall (August through September). Mating and egg-laying occur throughout this period. Eggs are generally laid in clusters of from 25 to 250 between mature leaf surfaces held together by an adhesive produced by the adult female. These eggs can also be laid on a single leaf, by folding parts of the leaf to cover the egg mass. A single female may lay as many as 5,000 eggs during her life of three to four months.

The eggs hatch in 7-10 days after they are laid. The larvae drop to the ground, burrow into the soil, and begin to feed on fibrous roots of host plants, moving to larger roots as they mature. The length of time spent in the larval and pupal stages varies from several months to more than a year. After a period of feeding, the larvae pupate in the soil, emerging later as adults. The total life cycle of any single weevil may last from six to 15 months resulting in multiple overlapping generations.

The current estimate for damage caused by the Diaprepes root weevil in Florida is approximately $70 million per year. For individual citrus growers, the Diaprepes root weevil can result in a total loss. According to FDACS, over 30,000 acres of citrus in 23 counties are currently known to be infested. For ornamentals, root crops, and tropical fruit, more than 1,000 acres in two counties are known to be infested. Grower returns have been negatively affected by both reduced yields and increased production costs. Without adequate control measures, this pest can render a citrus grove operation non-profitable.

Adult Diaprepes root weevils feed on young, tender, citrus foliage and occasionally on fruit. The primary economic damage is caused by larvae feeding on roots and the crown area. A few large larvae can girdle and render a mature, healthy citrus tree non-productive. This behavior apparently makes Diaprepes root weevils unique among the citrus root weevil species found in the United States. Additionally, combinations of other root-debilitating factors such as Phytophthora root rot (*Phytophthora* spp.), nematodes and/or moisture stress can hasten decline of an infested tree.

Adult and larval Diaprepes root weevils also attack ornamental trees and agronomic root crops. Some crops may show only adult feeding damage and others are damaged only by larvae. The presence of adult Diaprepes root weevils is indicated by irregular semicircular feeding areas on the leaf edges of ornamental crops, similar to citrus. Adult weevil injury can also be observed on palm flowers as well as roots. It is suspected that the spread of this pest to California's date production areas would also have a negative economic impact on that industry. Adults are generally found on plants at the time of leaf flushing but can also be found continuously on ornamental trees with permanent tender foliage.

Phytophthora spp. root rot organisms commonly infect the margin of larval feeding sites in the root bark. This may cause girdling of large structural roots and accelerated tree decline on *Phytophthora* susceptible and moderately resistant rootstocks.

Many ornamental trees support advanced larval injury before external symptoms (leaf yellowing, wilting, and defoliation) are observed. Other hosts, such as oaks, appear to be susceptible to root-debilitating factors such as Phytophthora root rot following larval feeding. In California, Phytophthora root rot already contributes significantly to the mortality of urban and rangeland oaks.

Crops with a succulent root system, fleshy roots, or tubers (cassava, malanga, potatoes) can tolerate several larvae before any external symptoms appear. Damage to root crops in Florida is manifested by shallow to deep larval feeding on fleshy roots or tubers. External

damage to these root crops may lead to invasion by secondary fungal pathogens that cause rotting and prevent such crops from being sold on the fresh market.

The Diaprepes root weevil has the capability of causing significant irreparable harm to California's agricultural industry and environment. The Department has determined that quarantine activities needed to begin as soon as possible to prevent the artificial spread of this pest to uninfested areas of California.

The amendment of Section 3433 established a two-mile area surrounding Encinitas within San Diego County as an additional area under quarantine for Diaprepes root weevil. The proposed quarantine area is the smallest area possible, which includes a buffer area and is based upon the known natural dispersal of this weevil.

The effect of the amendment of this regulation is to implement the State's authority to perform quarantine activities against Diaprepes root weevil in the area under quarantine surrounding Encinitas. In order to protect California's agricultural industry and environment, it was necessary to begin quarantine activities against the Diaprepes root weevil immediately. Therefore, it was necessary to amend this regulation as an emergency action.

Estimated Cost or Savings to Public Agencies or Affected Private Individuals or Entities

The Department of Food and Agriculture has determined that Section 3433 does not impose a mandate on local agencies or school districts, except that agricultural commissioners of counties under quarantine have a duty to enforce it. No reimbursement is required under Section 17561 of the Government Code because the Agricultural Commissioner of San Diego County requested the change in the regulations.

The Department also has determined that no savings or increased costs to any state agency, no reimbursable costs or savings under Part 7 (commencing with Section 17500) of Division 4 of the Government Code to local agencies or school districts, no

nondiscretionary costs or savings to local agencies or school districts, and no costs or savings in federal funding to the State will result from the proposed action.

The Department has determined that the proposed action will not have a significant adverse economic impact on housing costs or California businesses, including the ability of California businesses to compete with businesses in other states. The Department's determination that this action will not have a significant adverse economic impact on businesses was based on the following:

Within the quarantine area, the Department has not specifically identified any businesses that handle green waste and/or soil movement from or within the regulated area. However, such movement must be conducted in a manner that precludes the escape of hitching adult DRW or the potential spread of larvae or pupae of the DRW. Green waste or soil may move within or from the regulated area if it is certified as originated from an uninfested area or inspected or treated by an authorized agricultural official or under the terms of a permit issued by the Department. Approved methods of treatment include maintaining the green waste or soil completely enclosed in containers or plastic bags, or completely covered with fine mesh or tarps, or moved in an enclosed truck or trailer or chipped and shredded on site prior to movement to an authorized disposal site. All of these methods are very inexpensive and are already required as a condition of movement on public roadways by other State and/or local agencies. Therefore, these methods of treatment would not represent a significant economic impact.

The Department has determined that there are no known ongoing commercial soil movements, nurseries or other potentially affected agricultural businesses located within the regulated area.

Based on the preceding information, it was determined that the amendment of Section 3433 will not have a significant adverse economic impact on businesses. All costs associated with compliance with the regulation are low and, for the most part, a number of optional ways to comply are available to businesses so they may select the means with the

lowest cost and easiest implementation for them. For many businesses, no additional costs will be incurred.

Assessment

The Department has made an assessment that the amendment to this regulation would not (1) create or eliminate jobs within California, (2) create new business or eliminate existing businesses within California, or (3) affect the expansion of businesses currently doing business within California.

Alternatives Considered

The Department of Food and Agriculture must determine that no alternative considered would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

Information Relied Upon

The Department is relying upon the following studies, reports, and documents in the adoption of Section 3433:

Email dated July 10, 2006, from Nick Condos to Stephen Brown, plus its attachment, "Diaprepes Quarantine Boards and Commissions."

Letter dated June 6, 2006, to Mr. A.G. Kawamura, Secretary, from Cathy V. Neville, Acting San Diego County Agricultural Commissioner.

Email dated September 21, 2005, and its attachment entitled, "Pest Profile," from Kevin Hoffman to Stephen Brown.

"Host Plants of Diaprepes Root Weevil and Their Implications to the Regulatory Process," S.E. Simpson, H.N. Nigg, and J.L. Knapp, Division of Plant Industry, Florida Department of Agriculture and Consumer Services (18 pages).

"Biology of *Diaprepes abbreviatus* in the Laboratory and Field," Philip A. Stansly, University of Florida (six pages).

"History and Importance of Diaprepes to Florida," David G. Hall, United States Sugar Corporation (six pages).

"Citrus Root Weevil - *Diaprepes abbreviatus,*" Texas Department of Agriculture (one page).

"Diaprepes Root Weevil," E.E. Grafton-Cardwell, K.E. Godfrey, J. E. Pena, C. W. McCoy, and R.L. Luck, Publication 8131, University of California (eight pages).

"Pest and Damage Record #1304344," dated June 5, 2006, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

"Pest and Damage Record #1354070," dated June 1, 2006, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

"Pest and Damage Record #1354069," dated June 1, 2006, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

"Pest and Damage Record #1354068," dated June 1, 2006, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

"Pest and Damage Record #1354067," dated June 1, 2006, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

"Pest and Damage Record #1354066," dated May 31, 2006, California Department of Food and Agriculture, Plant Health and Pest Prevention Services.